

Attorney Docket: TruTech P-302

Patent

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Steven G. Smarsh, et al.

Serial No.: 09/720,576

Examiner: Eileen P. Morgan

Filed: December 22, 2000

Group Art Unit: 3723

Title: "GRINDING MACHINE, COMPUTER SOFTWARE TO OPERATE SUCH A MACHINE, AND THEIR USES THEREFOR"

Mail Stop RCE  
Commissioner for Patents  
PO Box 1450  
Alexandria VA 22313-1450

**Request for Continued Examination AMENDMENT**

Dear Sir:

This Amendment is being filed to effect a Request for Continued Examination (RCE) under 37 CFR 1.114 in response to the Office Action mailed August 11, 2005 and the Advisory Action mailed January 30, 2006. Applicants respectfully request reconsideration of the rejections and objections and solicit an early allowance of claims 3-4, 6-8 and 11 for the reasons discussed below. A request for a three (3) month extension of time has been included herein.

CHECKBOX OF MAILING (37 CFR 1.101)

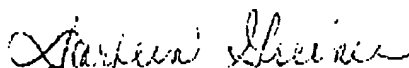
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Date of Deposit with U.S. Postal Service: February 11, 2006

I hereby certify that the following attached papers and/or fee are being deposited with the United States Postal Service, with sufficient postage, as Express Mail on the date indicated above and addressed to "Mail Stop RCE", Commissioner for Patents, PO Box 1450, Alexandria, VA 22313-1450"

Darleen Greiner

Name



Signature

Application No.: 09/720,576  
Amdt. Dated 13 FEB 2006  
Reply to Office Action of August 11, 2005

IN THE SPECIFICATION:

In the specification, please amend the paragraph beginning on page 10, line 24, by deleting the "." after the word "off", and deleting the capital "B" in "By" and replacing it with a small case "b", so that it reads: "...with the grinding wheel off by jogging the grinding wheel..."; and

in the specification, please amend the paragraph beginning on page 10, line 33, by deleting the "." after the word "begins", ", and deleting the capital "I" in "In" and replacing it with a small case "i", so that it reads: "...the grinding operation begins if the result is totally desirable.... .

IN THE CLAIMS:

Please replace claims 3-4, 6-8, and 11 with the following clean version of amended claims 3, 6, and 11:

1. (withdrawn) A workpiece support apparatus for centerless grinding, comprising:
  - a carriage having an edge;
  - a rotatable spindle extending through the carriage and having an extending portion, the extending portion extending beyond the edge of the carriage;
  - a regulating roller mounted on the extending portion of the spindle, the regulating roller for supporting and rotating the workpiece;
  - a wheel dressing roller having a polishing outer surface and being mounted on the extending portion of the spindle distal of the carriage relative to the regulating roller; and
  - means for rotating the spindle which thereby rotates the regulating roller and the wheel dressing roller.

Application No.: 09/720,576  
Amtd. Dated 13 FEB 2006  
Reply to Office Action of August 11, 2005

2. (withdrawn) The support apparatus according to claim 1, wherein the wheel dressing roller has an outer diameter which is less than the outer diameter of the regulating roller.

3. (currently amended) A computer program in combination with a computer and a rotational grinding apparatus having a grinding wheel, a blade and a regulating roller for enabling a user through a user interface to control the rotational grinding apparatus to dress at least one of the grinding wheel, the blade, and the regulating roller by using a wheel dressing roller supported on a spindle and grind a workpiece, comprising:

means for displaying a computer screen on a monitor and for selecting an icon resembling a desired profile for dressing, said screen having at least one numerical data input value display window on the screen, wherein the value displayed in the at least one numerical data input value display window corresponds to a numerically controlled pattern of dressing, and wherein said pattern of dressing is variable by changing the value in the display window, whereby the computer will assign certain characters to certain input, and numerical algorithms and computer programs will automatically be programmed into the computer;

means for displaying a computer screen on a monitor and for selecting an icon resembling a desired profile for grinding, said screen having at least one numerical data input value display window on the screen, wherein the value displayed in the at least one numerical data input value display window corresponds to a numerically controlled pattern of grinding, wherein the value displayed in the at least one numerical data input value display window corresponds to a numerically controlled pattern of grinding, whereby the computer will assign certain characters to certain input, and numerical algorithms and computer programs will automatically be programmed into the computer, and wherein said pattern of grinding is variable by changing the value in the display window;

means for accepting a value from the user and displaying the value in the value display window;

means for setting at least two grinding axes; and

means for initiating a grinding operation, coolant, and cycles;

Application No.: 09/720,576  
Amtd. Dated 13 FEB 2006  
Reply to Office Action of August 11, 2005

whereby selecting a value in the at least one value display window automatically directs the computer program to select a scripted computer program to control the grinding apparatus to in-situ dress and grind at least one of the grinding wheel, the blade and the regulating roller, and a workpiece in a desired configuration.

4. (previously presented) The program according to claim 3, further comprising a means for changing the value in the at least one numerical data input value display window to increase or decrease the values displayed by using a mouse to scroll up and down a value list.

5. canceled

6. (currently amended) A computer program in combination with a computer and a rotational grinding apparatus having a grinding wheel, a blade and a regulating roller for enabling a user through a user interface to control the rotational grinding apparatus to dress the regulating roller and to grind a workpiece, comprising:

means for displaying a computer screen having at least one numerical data input value display window, wherein the value displayed in the value display window corresponds to a numerically controlled pattern of regulator dressing whereby the computer will assign certain characters to certain input, and numerical algorithms and computer programs will automatically be programmed into the computer, and wherein said pattern of dressing is variable by changing the value in the display window relating to a variable in the process of dressing the regulating roller;

means for displaying a computer screen having at least one numerical data input value display window, wherein the value displayed in the value display window corresponds to a numerically controlled pattern of grinding, whereby the computer will assign certain characters to certain input, and numerical algorithms and computer programs will automatically be programmed into the computer, and wherein said pattern of dressing is variable by changing the value in the display window relating to a variable in the process of grinding;

Application No.: 09/720,576  
Amendment Dated 13 FEB 2006  
Reply to Office Action of August 11, 2005

whereby selecting numerical data input values in the value display windows automatically directs the computer to select a scripted computer program to control the grinding apparatus to in-situ dress and grind the regulating roller and the workpiece in a desired configuration.

7. (previously presented) The program according to claim 6, further comprising means for changing the value in the value display window to either increase or decrease the values.

8. (previously presented) The program according to claim 6, further comprising means for enabling modification of the accepted value.

9. (withdrawn) A grinding apparatus capable of dressing a grinding wheel using a computer system having a user interface, the apparatus comprising:

- a user interface including a means for data input and a monitor;
- an input/output (I/O) interface board electronically connected to the user interface;

- a data processor electronically connected to the I/O board;

- a motion controller electronically connected to the I/O board;

- a y-axis drive unit electronically connected to the motion controller;

- a z-axis drive unit electronically connected to the motion controller;

- a y-axis motor electronically connected to the y-axis drive unit;

- a z-axis motor electronically connected to the z-axis drive unit;

- a grinding wheel;

- a rotatable wheel dressing roller;

the combination of the grinding wheel and the wheel dressing roller being connected to the y-axis motor and the z-axis motor such that the y- and z-axis motors can cause the grinding wheel and the wheel dressing roller to contact each other so that when the grinding wheel

Application No.: 09/720,576  
Amdt. Dated 13 FEB 2006  
Reply to Office Action of August 11, 2005

and the wheel dressing roller are rotating, the wheel dressing roller will smooth the surface of the grinding wheel.

the data processor for controlling the y-axis motor to control the depth of grinding and for controlling the x-axis to control the grinding wheel and the wheel dressing roller to sweep past one another longitudinally.

10. (withdrawn) A centerless grinding apparatus capable of dressing a regulating roller using a computer system having a user interface, the apparatus comprising:

a user interface including a means for data input and a monitor;

an input/output (I/O) interface board electronically connected to the user interface;

a data processor electronically connected to the I/O board;

a motion controller electronically connected to the I/O board;

a y-axis drive unit electronically connected to the motion controller;

a z-axis drive unit electronically connected to the motion controller;

a y-axis motor electronically connected to the y-axis drive unit;

a z-axis motor electronically connected to the z-axis drive unit;

a grinding wheel;

a regulating roller;

the combination of the grinding wheel and the regulating roller being connected to the y-axis motor and the z-axis motor such that the y- and z-axis motors can cause the grinding wheel and the regulating roller to contact each other so that when the grinding wheel and the regulating roller are rotating, the grinder wheel will smooth the surface of the regulating roller.

the data processor being designed for controlling the y-axis motor to control the depth of grinding and for controlling the x-axis to control the grinding wheel and the regulating roller to sweep past one another longitudinally.

Application No.: 09/720,576  
Amdt. Dated 13 FEB 2006  
Reply to Office Action of August 11, 2005

11. (currently amended) A computer system with a computer screen for enabling the selection of a computer program by a user utilizing value display windows on the computer screen, the computer program being adapted and created for controlling a rotational grinding apparatus, the computer system also for compiling data so that the rotational grinding apparatus performs as the user specifies, the computer system comprising:

means for displaying a computer program screen on a monitor selecting an icon resembling a desired profile for dressing and grinding, whereby the computer will assign certain characters to certain input, and numerical algorithms and computer programs will automatically be programmed into the computer, said screen having at least one numerical data input value display window on the computer screen which relates to a numerical variable in the process of grinding with a rotational grinding apparatus;

means for accepting a numerical value from the user and displaying the numerical value in the value display window;

means for setting at least two grinding axes; and

means for initiating a grinding operation, coolant, and cycles;

means for sending the accepted value to a computer program for operating the grinding apparatus; and

means for directing the computer to assign certain characters to certain input, and numerical algorithms and computer programs will automatically be programmed into the select a script computer program from the previous computer program containing the accepted value such that the computer program controls the grinding apparatus in a desired manner reflecting the numerical values entered into the value display windows.

Application No.: 09/720,576  
Amendment Dated 13 FEB 2006  
Reply to Office Action of August 11, 2005

### **REMARKS/ARGUMENTS**

Pursuant to the requirement of 37 CFR 1.121(h), and as stated above, please substitute and replace all the claim sheets, as amended and as originally filed, with the above amended set of claims. The marked-up version of the substitute Specification below is shown by the conventional comparison system utilizing strike-through (surrounding brackets) for deleted items, and underlining all added words. The following claim rejections and objections were noted from the Office Action dated August 11, 2005 and pursuant to each paragraph, presented in the same order, arguments follow.

#### **Claim Rejections – 35 USC § 112**

***1. Claims 3, 4, 6-8, 11 were rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement.***

In response to this rejection, claims 3, 6, and 11 have been amended to recite a selection and entering of data so whereby the computer will assign certain characters to certain input, and numerical algorithms and computer programs will automatically be programmed into the computer, rather than a "new program being written". As claim 4 depends from claim 3, claims 7 and 8 depend from claim 6, and both claims 3, 6 and 11 are now deemed to be allowable. Applicants submit that claims 4 and 7-8 are now also allowable.

***2. Claims 3, 4, 6-8, 11 were rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.***



Application No.: 09/720,576  
Amdt. Dated 12/13/2006  
Reply to Office Action of August 11, 2005

In response to this rejection, the amendments described above overcome the 112 rejection. As claim 4 depends from claim 3, claims 7 and 8 depend from claim 6, and both claims 3, 6 and 11 are now deemed to be allowable. Applicants submit that claims 4 and 7-8 are now also allowable.

***4. Claims 3, 4, 6-8, 11 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.***

In response to this rejection, as amended, claims 3, 6 and 11 now recite and more particularly point out and distinctly claim the subject matter regarded as the invention. As claim 4 depends from claim 3, claims 7 and 8 depend from claim 6, and both claims 3, 6 and 11 are now deemed to be allowable. Applicants submit that claims 4 and 7-8 are now also allowable.

**Claim Rejections – 35 USC § 102**

***6. Claims 3, 4, 6-8, 11 were rejected under 35 U.S.C. 102(e) as being anticipated by Maack USPN 5,766,057.***

In response to this rejection, claims 3, 6 and 11 have been amended to render the present invention as not anticipated by the Maack patent, and now overcomes those rejections. As claim 4 depends from claim 3, claims 7 and 8 depend from claim 6, and both claims 3, 6 and 11 are now deemed to be allowable. Applicants submit that claims 4 and 7-8 are now also allowable.

For the reasons above, Applicants respectfully submit that claims 3, 4, 6-8 and 11 are now in condition for allowance, and request that the Examiner give such an allowance.

Application No.: 09/720,576  
Amdt. Dated 13 FEB 2006  
Reply to Office Action of August 11, 2005

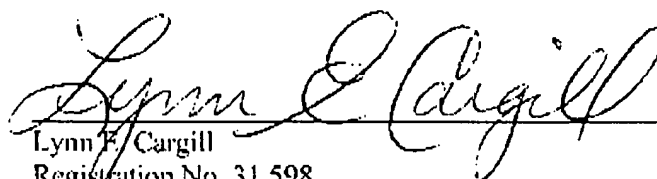
Applicants wish to thank the Examiner for her thorough examination, and hope, that by these Amendments, the subject matter of the present invention is now more clearly stated, such that a closer review of the present invention, in light of the amendments and arguments made here, will give solid support for an allowance. Consequently, Applicants request reconsideration in the instant Application and withdrawal of all grounds of rejection and objection in view of the amendments and the following discussion.

If the Examiner feels that the prosecution of this Application can be expedited by conversation, she is courteously requested to place a telephone call to Applicants' attorney at the number listed below.

In view of the foregoing, it is believed that the remaining claims now distinguish over the prior art and are allowable. For the reasons discussed above, it is believed that this Application is now in an allowable condition such that it is appropriate to hereby respectfully solicit its allowance.

Respectfully submitted,

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